

Appln No. 10/726,330
Amdt date May 17, 2004
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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An optical receiver comprising:
a dispersion compensator having variable ~~amount~~ of dispersion compensation to compensate chromatic dispersion of a signal light input from an optical transmission line;
a selfcorrelator to ~~operate selfcorrelation~~ of selfcorrelate a signal light output from the dispersion compensator; and
a controller to control the dispersion compensator to ~~make~~ increase the selfcorrelation of the optical selfcorrelator ~~larger~~.
2. (Currently Amended) The optical receiver of claim 1 further comprising a transmission error rate information calculator to calculate information indicating a transmission error rate of the optical transmission line out of ~~the~~ a signal light output from the dispersion compensator, wherein the controller controls the dispersion compensator to ~~make~~ decrease the transmission error rate ~~smaller~~.
3. (Currently Amended) The optical receiver of claim 2 wherein the controller controls the dispersion compensator to ~~make~~ increase the selfcorrelation of the optical selfcorrelator ~~larger~~ and ~~after that~~ then controls the dispersion compensator

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to ~~make~~ decrease the transmission error rate ~~smaller~~ according to ~~the~~ an output from the transmission error rate information calculator.

4. (Currently Amended) The optical receiver of claim 2 wherein the dispersion compensator comprises a dispersion/dispersion slope compensator having variable amount of dispersion compensation and variable dispersion slope; and wherein the controller controls the amount of dispersion compensation of the dispersion/dispersion slope compensator so that the selfcorrelation of the optical selfcorrelator becomes larger, and controls the dispersion slope of the dispersion/dispersion slope compensator so that the transmission error rate becomes smaller.

5. (Currently Amended) An optical receiver comprising:
an optical divider to divide a signal light from an optical transmission line into two portions;

a first and a second dispersion compensators, each dispersion compensator having variable ~~amount~~ of dispersion compensation to compensate chromatic ~~dispersion~~ dispersions of each of the two portions of signal light output from the optical divider;

a data demodulator to demodulate a data carried by a signal light output from the first dispersion compensator;

an optical selfcorrelator to operate selfcorrelation of a signal light output from the second dispersion compensator; and

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a controller to control ~~on-trial~~ the second dispersion compensator to ~~make~~ increase selfcorrelation of the optical selfcorrelation ~~larger~~ and to control the first dispersion compensator according to ~~the-trial~~ result of controlling the second dispersion compensator.

6. (Currently Amended) The optical receiver of claim 5 wherein the data demodulator comprises a transmission error rate information calculator to calculate information indicating a transmission error rate of the optical transmission line; and wherein the controller controls the first dispersion compensator to ~~make~~ decrease the transmission error rate ~~smaller~~ according to ~~the~~ an output from the transmission error rate information calculator.

7. (Currently Amended) The optical receiver of claim 6 wherein the first dispersion compensator comprises a dispersion/dispersion slope compensator having variable ~~amount~~ of dispersion compensation and variable dispersion slope; and wherein the controller controls the dispersion slope of the dispersion/dispersion slope compensator to ~~make~~ decrease the transmission error rate ~~smaller~~.

8. (Currently Amended) An optical receiver comprising:
a first optical divider to divide a signal light input from an optical transmission line into two portions;
a first and a second dispersion ~~compensators~~ compensator,
each dispersion compensator having variable ~~amount-of~~ dispersion

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compensation to compensate chromatic dispersion of each portion of signal light output from the first optical divider;

a second optical divider to divide an output light from the first dispersion compensator into two portions;

a data demodulator to demodulate a data carried by one portion of signal light output from the second optical divider;

an optical selfcorrelator;

an optical selector to ~~supply~~ select an output light from the second dispersion compensator, or the other portion of output light from the second optical divider and to supply the selected output light to the optical selfcorrelator; and

a controller to control ~~on-trial~~ the second dispersion compensator to ~~make~~ increase selfcorrelation of the optical selfcorrelator ~~larger~~ on condition that the optical selector is controlled to supply the output signal light from the second dispersion compensator to the optical selfcorrelator, and to control the first dispersion compensator according to ~~the trial~~ result of the control of the second dispersion compensator.

9. (Currently Amended) The optical receiver of claim 8 wherein the controller, ~~after setting the trial result to the first dispersion compensator,~~ controls the first dispersion compensator to ~~make~~ increase selfcorrelation of the optical selfcorrelator ~~larger~~ on condition that the optical selector is controlled to supply ~~the~~ an output signal light from the first dispersion compensator to the optical selfcorrelator.

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10. (Currently Amended) The optical receiver of claim 8 wherein

the data demodulator comprises a transmission error rate information calculator to calculate information indicating a transmission error rate of the optical transmission line; and

the controller controls the first dispersion compensator to ~~make~~ decrease the transmission error rate ~~smaller~~ according to an output from the transmission error rate information calculator.

11. (Currently Amended) The optical receiver of claim 10 wherein

the first dispersion compensator comprises a dispersion/dispersion slope compensator having variable ~~amount~~ of dispersion compensation and variable dispersion slope ~~are~~ variable; and

the controller controls the dispersion/dispersion slope compensator to ~~make~~ decrease the transmission error rate ~~smaller~~.

12. (Currently Amended) A method for controlling a dispersion compensator to compensate chromatic dispersion of a signal light input from an optical transmission line, the method comprising ~~steps of~~:

operating selfcorrelation of ~~the~~ an output signal light from the dispersion compensator; and

controlling the dispersion compensator to ~~make~~ increase the selfcorrelation ~~larger~~.

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13. (Currently Amended) The method of claim 12 further comprising ~~a step of~~ calculating information indicating a transmission error rate of the optical transmission line out of the output signal light from the dispersion compensator, wherein the controlling ~~step~~ controls the dispersion compensator to ~~make~~ increase the selfcorrelation ~~larger~~ and to ~~make~~ decrease the transmission error rate ~~smaller~~.

14. (Currently Amended) The method of claim 13 ~~wherein~~ further comprising: after the controlling ~~step~~ controls the dispersion compensator to ~~make~~ increase the selfcorrelation ~~larger and after that controls~~ , controlling the dispersion compensator to ~~make~~ decrease the transmission error rate ~~smaller~~.

15. (Currently Amended) The method of claim 13 wherein the dispersion compensator comprises a dispersion/dispersion slope compensator having variable ~~amount of~~ dispersion compensation and variable dispersion slope; and

the controlling ~~step~~ controls ~~the amount of~~ dispersion compensation of the dispersion/dispersion slope compensator to ~~make~~ increase the selfcorrelation ~~larger~~ and controls the dispersion slope of the dispersion/dispersion slope compensator to ~~make~~ decrease the transmission error rate ~~smaller~~.

16. (Currently Amended) A method for controlling a first dispersion compensator to compensate chromatic dispersion of a

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signal light input from an optical transmission line, the method comprising: ~~steps of,~~

providing a second dispersion compensator having variable ~~amount of~~ dispersion compensation to compensate chromatic dispersion of a signal light input ~~form~~ from the optical transmission line;

operating selfcorrelation of a signal light output from the second dispersion compensator;

~~trying the control of~~ controlling the second dispersion compensator to ~~make~~ increase the selfcorrelation ~~larger~~; and

controlling the first dispersion compensator according to ~~the trial~~ result from ~~the trying step~~ said controlling the second dispersion compensator.

17. (Currently Amended) The method of claim 16 further comprising ~~a step of~~ calculating information indicating a transmission error rate of the optical transmission line out of a signal light output from the first dispersion compensator wherein

the controlling ~~step~~ further comprises ~~a step of~~ controlling the first dispersion compensator to ~~make the~~ decrease transmission error rate ~~smaller~~.

18. (Currently Amended) The method of claim 17 wherein the first dispersion compensator comprises a dispersion/dispersion slope compensator having variable ~~amount of~~ dispersion compensation and variable dispersion slope; and

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the controlling ~~step~~ controls the dispersion slope of the dispersion/dispersion slope compensator to ~~make~~ decrease the transmission error rate ~~smaller~~.

19. (Currently Amended) A method for controlling a first dispersion compensator to compensate chromatic dispersion of a signal light input from an optical transmission line, the method comprising ~~steps of~~:

providing a second dispersion compensator having variable ~~amount of~~ dispersion compensation to compensate chromatic dispersion of a signal light input from the optical transmission line;

operating selfcorrelation of a signal light output from the second dispersion compensator;

~~and trying the control of~~ controlling the second dispersion compensator to ~~make~~ increase the selfcorrelation ~~larger~~; and

setting the first dispersion compensator according to ~~the~~ trial result of the operating and trying step said controlling the second dispersion compensator.

20. (Currently Amended) The method of claim 19 further comprising:

~~a step of~~ calculating information indicating a transmission error rate of the optical transmission line out of ~~the~~ a signal light output from the first dispersion compensator; and

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~~a first control step of~~ controlling the first dispersion compensator to ~~make~~ decrease the transmission error rate ~~smaller~~.

21. (Currently Amended) The method of claim 19 further comprising ~~a second control step of~~ operating selfcorrelation of ~~the~~ an output signal light from the first dispersion compensator after the setting ~~step~~ and controlling the first dispersion compensator to ~~make~~ increase the selfcorrelation ~~larger~~.

22. (Currently Amended) The method of claim 20 wherein the first dispersion compensator comprises a dispersion/dispersion slope compensator having variable ~~amount~~ of dispersion compensation and variable dispersion slope; and the ~~first control step~~ controlling comprises ~~a step of~~ controlling the dispersion slope of the dispersion/dispersion slope compensator to ~~make~~ decrease the transmission error rate ~~smaller~~.